

REMARKS

Claims 1-81 were pending prior to this Amendment. Of the pending claims, claims 21-81 were previously withdrawn in response to a restriction requirement. By this Amendment, applicants cancel claims 6 and 10 without prejudice to refile; amend claim 1 to incorporate the subject matter of canceled claims 6 and 10; and amend claims 7 and 9 so that these claims now depend from claim 1. Accordingly, claims 1-5, 7-9, and 11-20 are now pending and at issue. No new matter has been added by any of the claim amendments.

Claims 1, 4, 6-12, 14, 17, and 20 stand rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, stand rejected under 35 U.S.C. § 103(a) as obvious over either U.S. Patent No. 2,978,066 ("Nodolf") or U.S. Patent No. 4,264,343 ("Natarajan et al."). Claims 2, 3, and 5 stand rejected under 35 U.S.C. § 103(a) as obvious over either Nodolf or Natarajan et al. in view of U.S. Patent No. 5,993,738 ("Goswani"). Claims 13, 15, and 16 stand rejected under 35 U.S.C. § 103(a) as obvious over either Nodolf or Natarajan et al. in view of U.S. Patent No. 6,042,637 ("Weinberg"). Claims 18 and 19 stand rejected under 35 U.S.C. § 103(a) as obvious over either Nodolf or Natarajan et al. in view of U.S. Patent No. 6,176,977 ("Taylor et al."). Applicants respectfully traverse the claim rejections and request reconsideration and withdrawal.

Claim Rejections under 35 U.S.C. §§ 102(b) and 103(a)

Applicants request that the rejection of claims 1, 4, 7-9, 11, 12, 14, 17, and 20 as anticipated by or, in the alternative, obvious over either Nodolf or Natarajan et al. be withdrawn because neither of these references discloses or suggests an electrostatic precipitator (ESP) system that includes, among other things, a first high voltage source coupled between a corona discharge electrode and a pair of collector electrodes, the first high voltage source configured to provide a first high voltage potential difference between the corona discharge electrode and the pair of collector electrodes; and a second high voltage source coupled between the pair of collector electrodes and an insulated driver electrode, the second high voltage source configured to provide a second high voltage potential difference between the pair of collector electrodes and the insulated driver electrode, as recited by amended claim 1.

While Nodolf describes an electrostatic air cleaner that includes a collecting section in which a voltage difference exists between adjacent, oppositely charged electrodes or plates (Nodolf, col. 1, ll. 65-69; FIG. 1), Nodolf does not disclose or suggest an electrostatic

precipitator system including a first high voltage source configured to provide a first high voltage potential difference between a corona discharge electrode and a pair of collector electrodes, and a second high voltage source configured to provide a second high voltage potential difference between the pair of collector electrodes and an insulated driver electrode. Similarly, while Natarajan et al. describes an apparatus for removing particulates including a high voltage source to provide a corona current between a discharge electrode and plates of the collecting section (Natarajan et al., col. 4, ll. 32-43; FIG. 11), Natarajan et al. does not disclose or suggest a first high voltage source between a corona discharge electrode and a pair of collector electrodes, and a second high voltage source between the pair of collector electrodes and insulated driver electrode.

As disclosed in applicants' specification, by providing a high voltage source between the corona discharge electrode and the pair of collector electrodes and by providing another high voltage source between the pair of collector electrodes and the insulator driver electrode, "the voltage potential of the corona discharge electrode 202 and the insulated driver electrode 206 can be independently adjusted. This allows for corona current adjustment (produced by the electric field between the discharge electrode 202 and collector electrodes 204) to be performed independently of adjustments to the electric fields between the insulated driver electrodes 206 and collector electrodes 204." (Specification, para. [0047]). This feature is lacking in both Nodolf and Natarajan.

Furthermore, it would not have been obvious to one of ordinary skill at the time of applicants' invention to modify either Nodolf or Natarajan et al. to arrive at the claimed subject matter because neither of these references teaches or suggests that it would be desirable to make such a modification.

Because both Nodolf and Natarajan et al. fail to disclose or suggest each and every limitation of independent claim 1, as amended, claim 1 is considered to be allowable. Claims 4, 7-9, 11, 12, 14, 17, and 20, which depend from claim 1, are considered to be allowable for at least this same reason.

As applicants have canceled claims 6 and 10 without prejudice to refile, the rejection of these claims is moot. Incidentally, while stating that dependent claims 6 and 10, among others,

are anticipated by, or in the alternative, obvious over either Nodolf or Natarajan et al., the Examiner has failed to provide a detailed basis for the rejection of these dependent claims. If the Examiner wishes to maintain that the subject matter of canceled claims 6 and 10 is anticipated by, or in the alternative, obvious over either Nodolf or Natarajan et al., any subsequent Office action containing such rejection should not be made final as applicants have not been afforded an opportunity to fully consider and respond to any such rejection.

Applicants request that the rejection of dependent claims 2, 3, and 5 as obvious over either Nodolf or Natarajan et al. in view of Goswani; the rejection of dependent claims 13, 15, and 16 as obvious over either Nodolf or Natarajan et al. in view of Weinberg; and the rejection of dependent claims 18 and 19 as obvious over either Nodolf or Natarajan et al. in view of Taylor et al. be withdrawn because none of these references discloses or suggests the claimed subject matter.

The Examiner has failed to advance a *prima facie* case of obviousness because neither Goswani, Weinberg, nor Taylor et al. supplies the missing disclosure or suggestion of Nodolf or Natarajan et al. As discussed above, neither Nodolf or Natarajan et al. discloses or suggests a first high voltage source between a corona discharge electrode and a pair of collector electrodes, and a second high voltage source between the pair of collector electrodes and an insulated driver electrode, as recited by each of the pending claims. Applicants respectfully submit that this feature is not disclosed or suggested by Goswani, Weinberg, or Taylor et al. Instead, Goswani describes an electrostatic precipitator having a grounded collection plate spaced apart from an opposing electrode connected to a single source of electrical potential (Goswani, col. 3, ll. 15-30). Weinberg describes a corona discharge device that includes a collection grid and a needle-like emitter point connected to a single power supply 26 (Weinberg, Abstract; and FIGs. 3 and 4). Taylor et al. describes an electro-kinetic electro-static air conditioner that includes a single pulse generator coupled to a first electrode array and a second electrode array. (Taylor et al., col. 5, ll. 40-58; and FIGs. 1A, 1B, 3, and 4A-4I). Nowhere do Goswani, Weinberg, and Taylor et al. disclose or suggest providing multiple high voltage power sources.

Furthermore, it would not have been obvious to one of ordinary skill at the time of applicants' invention to combine either Nodolf or Natarajan with Goswani, Weinberg, or Taylor

et al. to arrive at the claimed subject matter because none of these references, whether taken alone or in combination, discloses or suggests the subject matter of the rejected claims.

Because none of the cited references, whether take alone or in combination, discloses or suggests a first high voltage source between a corona discharge electrode and a pair of collector electrodes, and a second high voltage source between the pair of collector electrodes and an insulated driver electrode, as recited by independent claim 1, claims 2, 3, 5, 13, 15, 16, 18, and 19 (dependent upon claim 1), are not obvious therefrom and are, therefore, considered to be allowable.

In view of the foregoing, applicants respectfully request reconsideration and withdrawal of the claim rejections. Should the Examiner wish to discuss the Amendment, or any matter of form in an effort to advance this application toward allowance, the Examiner is invited to contact the undersigned at the indicated number.

The Director is authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account No. 02-1818 under Order No.. 112440-714.

Respectfully submitted,

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